

**THE POSITION OF *HEMICAECILIUS*  
(PSOCOPTERA: LACHESILLIDAE)  
AND DESCRIPTION OF A NEW SPECIES  
FROM VENEZUELA<sup>1</sup>**

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**ABSTRACT:** *Hemicaecilius venezolanus* n. sp. is described from a single female collected near Trujillo, northern Venezuela. It differs from the generotype and hitherto single species of the genus, *H. bogotanus* from Colombia, in an important venational character. We argue that the generotype specimen, now known only from a fore- and a hindwing, is anomalous in the character, and that numerous venational similarities mark the two species as congeneric. Structural characters, including the nature of the lacinial apex, pretarsal claw, gonapophyses, subgenital plate, ciliation and venation of the forewing indicate that *Hemicaecilius* belongs in the Lachesillidae, subfamily Lachesillinae, rather than in the Elipsocidae where some authors have placed it.

The genus *Hemicaecilius* has been an enigma for psocidologists since its description by Enderlein in 1903. The description was based only on wing venational characters of a single specimen collected in Bogotá, Colombia. No genitalic information about *Hemicaecilius* was provided, and at present all that remains of the type specimen is one fore- and one hindwing, mounted on a slide deposited in the Museum für Naturkunde der Humboldt-Universität, in Berlin.

Enderlein (1903) regarded *Hemicaecilius* as near *Graphocaecilius* Enderlein and noted its close similarity in wing ciliation with that genus. *Hemicaecilius* was included in the Elipsocidae: Lesneiinae by Smithers (1972, 1990), who noted that its position was uncertain and that there was little known of this genus other than its venation and number of tarsal segments.

The present study of a female specimen collected near Trujillo in northern Venezuela, allowed us to determine more precisely the systematic position of *Hemicaecilius* in the Psocoptera (see Discussion, below). Comparison of the wings of this specimen (Fig. 1) with the wings of the holotype of *H. bogotanus* (Fig. 9) convinced us that it belongs in *Hemicaecilius*. Although *Hemicaecilius* was described as having only two median veins in the forewing, we feel this is an anomalous condition of the holotype of *H. bogotanus*. Wing venational anomalies are frequent in the Psocoptera. When an anomaly involving two in-

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<sup>1</sup> Received. May 10, 1996. Accepted August 1, 1996.

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stead of three median veins in the forewing occurs, it usually results in broadening of the distal end of cell R5, as seen in the type of *H. bogotanus* (Fig. 9). If we assume that the normal condition of the forewing of *H. bogotanus* is three median veins and a more slender distal end of cell R5, then the forewing similarities between *H. bogotanus* and the new species become striking. Notable similarities include the following: 1) basal Rs segment gently curved outward; 2) Rs fork stem gently curved anteriad in its basal three-fifths, posteriad in its distal two-fifths; 3) Rs-M crossvein ca. one-fourth length of basal Rs segment; 4) point of branching of R2+3 and R4+5 very slightly distal to basal M branching; 5) median stem gently curved posteriorly in its basal three-fifths; 6) sparse, short setae present on margin and veins except none present on vein Cu 2.

The holotype of the new species was dissected and its parts were mounted in euparal for microscopic study. Standard measurements (FW = forewing; HW = hindwing; F = femur; T = tibia; t1, t2 = tarsomeres 1 and 2; cttl = number of ctenidia on t1; P4 = fourth segment of maxillary palp; IO = minimum distance between compound eyes; d = transverse diameter of compound eye), given in microns, were made on the parts mounted, with a filar micrometer. The measuring unit is 1.36 microns for wings, and 0.53 microns for other parts. The holotype is deposited in the Insect Collection, Zoology Department, Instituto de Biología, Universidad Nacional Autónoma de México, México City.

## Group Homilopsocidea

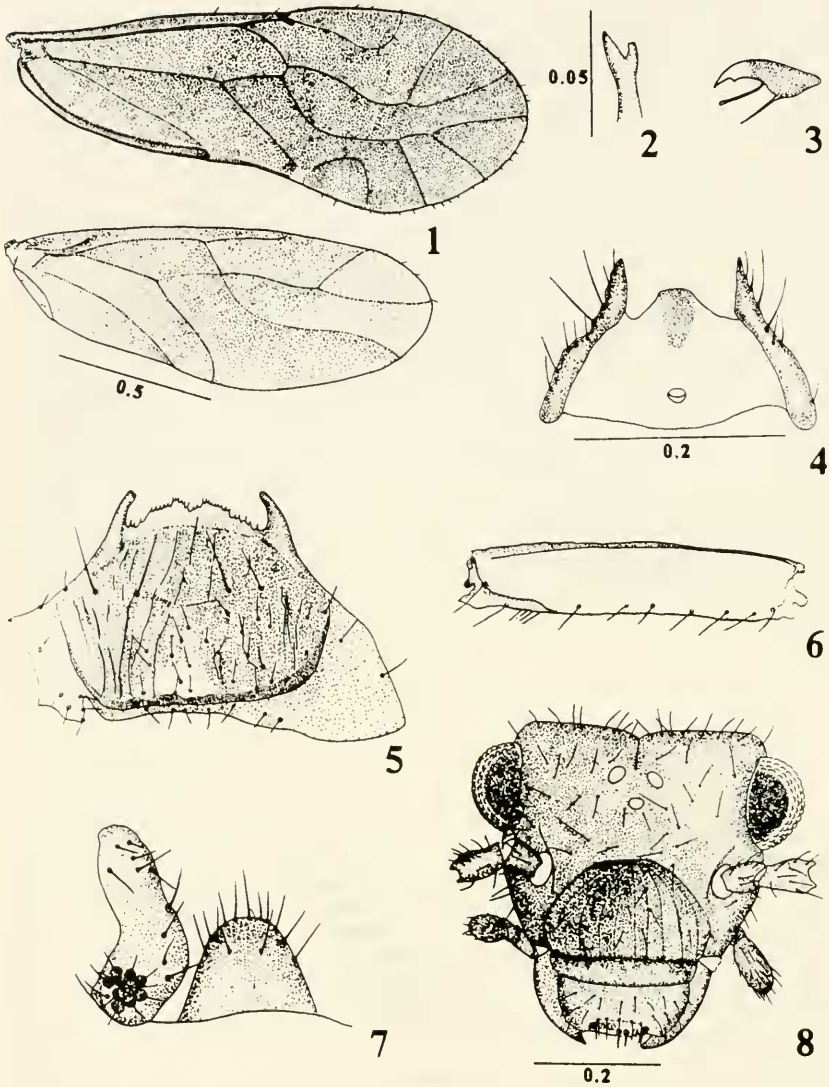
### Lachesillidae, Lachesillinae

#### *Hemicaecilius venezolanus* NEW SPECIES (female)

**Diagnosis.** Ocelli present, lacinial tips bifid, outer cusp larger than inner one; pretarsal claw with one preapical denticle and slender pulvillus; forewing with small setae along margin and veins, Rs and M connected by crossvein; hindwing with row of small setae along margin in cell R3, one pair of gonapophyses present; subgenital plate with a slender posterior projection on each side. Differing from *H. bogotanus* by greater wing length, shape of the pterostigma, slightly more sigmoid stem of the Rs fork, shape of the areola postica, Rs-M in the hindwing meeting at a point instead of a fusion, and presence of marginal setae in cell R3 of the hindwing.

Color (in 80% alcohol). Body dark reddish brown. Compound eyes black, ocelli clear, without centripetal crescents. Antennae and maxillary palps brown. Tergal lobes of meso- and metathorax more pigmented than rest of the body. Legs pale brown. Wings reddish brown.

**Morphology.** Vertex slightly obtusely concave. Epicranial sulcus without lateral arms. Compound eyes below level of vertex. Lateral ocelli larger than median one. Epistomal sulcus well defined (Fig. 8). Lacinial tips bifid, inner cusp short, slender; outer cusp large, conical, apically blunt (Fig. 2). With five distal inner lateral sensilla, three placoids alternating with two trichoids. P4 with two small thin walled sensilla near the base. Pretarsal claws with slender pulvillus (Fig. 3). Hind femur (Fig. 6) with row of long setae ventrally. Forewing with small setae along margin and veins, as illustrated (Fig. 1). Hindwing with small setae on margin, between R2+3 and R4+5. No trichobothria distally on hind femur. Subgenital



Figures 1-8. *Hemicaecilius venezolanus* n.sp. (♀). 1. Fore and hind wings. 2. Lacinal apex. 3. Pretarsal claw. 4. Gonapophyses and ninth sternum. 5. Subgenital plate. 6. Hind femur. 7. Right paraproct and epiproct. 8. Front view of head. Scales in mm. Fig. 3 to scale of Fig. 2. Figs. 5-7 to scale of Fig. 4.

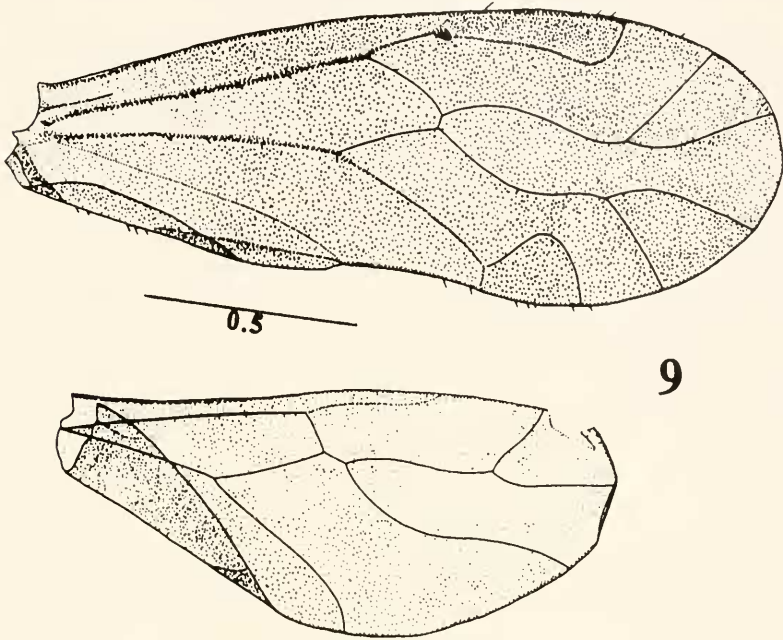


Fig. 9. *H. bogotanus* Enderlein (holotype). Fore and hind wings. Scale in mm.

plate broad, setose, with four mesal macrosetae; with two slightly curved, stout, blunt, posterior projections, with border between them jagged, as illustrated (Fig. 5). Gonapophyses: only V3 present, elongate, slender, basally rounded, with distal one-third pointed; with setae along outer edge. Ninth sternum pigmented, as illustrated (Fig. 4), projected posteriorly in the middle. Spermapore large, near anterior border of ninth sternum. Paraprocts elongate, setose; sensory fields with 10-11 trichobothria on basal rosettes, and a marginal one without basal rosette. Epiproct almost trapezoidal, setose (Fig. 7).

Measurements. FW: 1599; HW: 1339; F: 307; P4: 84; IO: 289; d: 72; IO/d: 4.01.

**Type Locality:** VENEZUELA. Trujillo, 2,387 m. Old road, 46 km E Trujillo, 6.VIII. 1988, C.W. & L.B. O'Brien & G. Wibmer, Holotype ♀.

## DISCUSSION

Two problems concerning *Hemicaecilius* must be considered: 1) its family placement, and 2) its relationships within the family. The size, color, wing venation, nature of the lacinial tip, reduction of the ovipositor valvulae to a single pair (the third), and presence of four macrosetae on the subgenital plate are all characters common in family Lachesillidae, and this particular constellation of characters is not found outside of that family. Assuming that the new

species truly represents *Hemicaecilius*, we assign the genus to family Lachesillidae.

Mockford and Sullivan (1986) proposed a classification of the family Lachesillidae, with two subfamilies, the Eolachesillinae and Lachesillinae. We believe that *Hemicaecilius* stands close to *Nadleria* Badonnel and Garcia Aldrete (1979) in the subfamily Lachesillinae. Our basis for placing it here, as opposed to near *Graphocaecilius* and allied genera in the Eolachesillinae is as follows: 1) presence in the new species of a simple outer tine of the lacinial tip (bidentate in most Eolachesillinae); 2) Rs-M crossvein present in forewing in both *Hemicaecilius* species and in *Nadleria* (Rs and M fused for a distance throughout Eolachesillinae); 3) fusion of the ovipositor valvulae with the ninth sternum in the new species and in most Lachesillinae (junction is via the stem of v-1 in the Graphocaeciliini and there is no junction in *Eolachesilla* Badonnel). Wing ciliation, absent in most species of *Lachesilla*, is shared with *Nadleria*, but may be a plesiomorphous character for the family.

#### ACKNOWLEDGMENTS

We thank Charles W. O'Brien (Florida A & M University, Tallahassee), for the specimen of *H. venezolanus*. We also thank K. K. Günther (Museum für Naturkunde der Humboldt-Universität zu Berlin) for loan of the holotype of *H. bogotanus*. We also thank Lauren Brown, Scott Sakaluk, and two unknown readers for critical reading of the manuscript resulting in useful comments.

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